

Listing of Claims:

Please amend claims 69, cancel claims 76-83, and add claims 84-86, as shown below. All pending claims are reproduced below, including those that remain unchanged

1-18. (Cancelled).

19. (Previously Presented) A method of operating a reactor which comprises a reactor chamber, an upper electrode, a heater that heats said upper electrode, and gas inlets and outlets, the method comprising:

introducing process gas into said reactor chamber, wherein the method of operation of the reactor is a platinum etch method, and wherein oxygen and chlorine are present in the reactor;

wherein platinum and one or both of the oxygen and the chlorine are deposited on the upper electrode;

heating the upper electrode with said heater to a temperature in order to cause deposits of oxygen and chlorine to de-absorb from the upper electrode in order to leave mostly platinum deposited on the electrode, such that a layer of material is formed on the upper electrode;

wherein the layer of material formed on the upper electrode is more stable than a layer of material formed when heating the upper electrode with said heater to a temperature insufficient to cause deposits of oxygen and chlorine to de-absorb from the upper electrode.

20-66. (Cancelled)

67. (Previously Presented) The method of claim 19, wherein the step of heating using the heater that heats the upper electrode comprises heating to a temperature between about 300°C to about 500°C.

68. (Previously Presented) The method of claim 19, wherein the reactor further comprises at least one side electrode, and a second heater provided in the at least one side electrode that heats said

at least one side electrode, and gas inlets and outlets, the method further comprising:

heating the at least one side electrode with said second heater such that any material resulting from the reaction deposited on the surface of the at least one side electrode forms a stable layer of material.

69. (Currently Amended) A method of platinum etch in a reactor which comprises a reactor chamber, an upper electrode, a heater that heats said upper electrode, and gas inlets and outlets, the method comprising:

introducing process gas into said reactor chamber; and

heating the upper electrode with said heater to a temperature in order to cause halogen elements to de-absorb from the upper electrode such that deposits of mostly platinum on the surface of the upper electrode wherein said deposits of mostly platinum forms a layer of material,

wherein the layer of material formed on the upper electrode is more stable than a layer of material formed when heating the upper electrode with said heater to a temperature insufficient to cause deposits of mostly platinum on the surface of the upper electrode.

70. (Previously Presented) The method of claim 69, wherein the step of heating using the heater that heats the upper electrode comprises heating to a temperature between about 300°C to about 500°C.

71. (Previously Presented) The method of claim 69, wherein the reactor further comprises at least one side electrode, and a second heater provided in the at least one side electrode that heats said at least one side electrode, and gas inlets and outlets, the method further comprising:

heating the at least one side electrode with said second heater such that any material resulting from the reaction deposited on the surface of the at least one side electrode forms a stable layer of material.

72. (Previously Presented) The method of claim 69, wherein the step of heating includes heating the surface of the upper electrode with the heater until any volatile compound of platinum collected on the surface of the upper electrode de-absorbs from the surface of the upper electrode.

73. (Previously Presented) The method of claim 72, wherein the volatile compound of platinum is a compound of platinum with chlorine or oxygen.
74. (Previously Presented) The method of claim 69, wherein the step of heating includes heating the surface of the upper electrode until any volatile compound of platinum collected on the surface of the upper electrode boils off the surface of the upper electrode.
75. (Previously Presented) The method of claim 74, wherein the volatile compound of platinum is a compound of platinum with chlorine or oxygen.

76.-83. (Cancelled)

84. (New) A method of operating a reactor which comprises a reactor chamber, an upper electrode, a heater that heats said upper electrode, and gas inlets and outlets, the method comprising:
 - introducing process gas into said reactor chamber, the process gas including one or both of oxygen and chlorine;
 - performing a platinum etch process in said reactor chamber; and
 - heating the upper electrode with said heater to a temperature capable of decomposing one or both of platinum chloride and platinum dioxide so that a layer of material formed on the upper electrode during the platinum etch process comprises mostly platinum; and
 - wherein the layer of material formed on the upper electrode is more stable than a layer of material formed when heating the upper electrode with said heater to a temperature insufficient to decompose the one or both of platinum chloride and platinum dioxide.
85. (New) The method of claim 84, wherein the upper electrode comprises aluminum and the upper electrode is heated to a temperature ranging from 300°C to 350°C.
86. (New) The method of claim 84, wherein the upper electrode comprises one or both of silicon and graphite and the upper electrode is heated to a temperature ranging from 400°C to 500°C.